



Recommendation 88-10

Federal Agency Use of Computers in Acquiring and Releasing Information

(Adopted December 9, 1988)

The rapid evolution of computer technology raises many economic and policy issues that affect the acquisition and release of information by government agencies. New information technologies can improve public access to public information and reduce paperwork burdens. They can also impose significant economic burdens, however, and they may stimulate competition between government agencies and established electronic information enterprises.

The essential role of information in a democratic system underscores the need to examine with care the opportunities that electronic information storage and transmission provide for improving the flow of information between government agencies and the public.

The following recommendations are intended to guide agencies in addressing the questions that will arise when an agency considers whether to acquire or release information in electronic form, either to facilitate performance of the agency's mission or to fulfill requirements established by the Freedom of Information Act (FOIA) or other laws.¹

At the present stage in the evolution of government electronic information policy, the most one can do is to suggest an analytical framework within which agency electronic system designers, policy makers, and budget planners can assess their options. The process and

¹ OMB Circular A-130 (50 FR 52730, Dec. 24, 1985) provides a general framework for management of federal information resources. The relationship between parts of this recommendation and provisions of the OMB Circular is as follows. Recommendation A reflects the same policy as Paragraph 7(g) of the Circular, but provides additional detail. Recommendation B deals with electronic acquisition, a subject addressed in proposed OMB guidelines, but not in detail in the existing version of Circular A-130. Recommendation C suggests a cost-benefit approach to defining agency electronic dissemination activities essentially consistent with that prescribed by the Circular, but offers a finer level of analytical detail to guide agency selection among three different levels of release. Recommendation D suggests defining the boundary between public and private sectors based on a cost-benefit analysis; this is endorsed by Paragraph 7(e) of Circular A-130, but Recommendation D defers less to private sector activities than the Circular. Recommendation E lists more specific cost and benefit categories to be considered than does the Circular. Recommendation F reflects the same policy as that set forth in Appendix IV to Circular A-130 (discussing paragraph 11(a)). Recommendations G and H have no counterparts in the Circular. Recommendation I discusses the role and limits of governmentwide policy; Circular A-130 is an example of such a policy. Recommendation J is consistent with Paragraph 9(c) of the Circular.



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substance of decisionmaking within this framework should, of course, conform with general principles of administrative law.

Because experience is now relatively limited and information technology is subject to rapid evolution, when Congress sets policy it should do so on as broad a basis as possible. Because changes in electronic information capability occur at a different pace in different sectors of the society, transitional arrangements will be necessary to ensure that electronic acquisition and release do not disadvantage major segments of the population.

The pertinent considerations depend on the context in which electronic acquisition or release of information is addressed. For example, the factors relevant to the release of information in electronic form in response to discrete FOIA requests differ from those that bear on discretionary agency decisions to release information broadly through electronic publishing. As a further example, resolution of issues pertaining to the acquisition of information in electronic form might depend on such factors as the technological capacity of the private parties from whom electronic filing is to be requested.

Recommendation A addresses the Freedom of Information Act. The FOIA was written with paper records in mind. The problem is to apply the Act to information maintained in electronic form. This recommendation does not seek to provide comprehensive guidance but does address in general terms such matters as whether electronic records should be deemed records subject to the FOIA and whether an agency should be expected to write new computer programs for the purpose of responding to a FOIA request.

Recommendations B and C discuss principles applicable to electronic acquisition and release of information, respectively. Recommendation D offers principles for defining the appropriate roles of the public and private sectors in the provision of electronic acquisition and release systems.

Recommendations C and D envision a three-step process for evaluating possible new electronic information products. The first step in the evaluation process is to identify the current level of release of the information that would be contained in a new electronic information product. There are in general terms three possible levels of agency activity in releasing information: (i) "dissemination" or "publishing", leading to the broadest availability of information; (ii) "disclosure", involving wholesaling to private information suppliers or providing electronic release capability in public reference rooms; and (iii) "access," involving ad hoc



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release in response to discrete requests. For the special meaning of these and other related terms used in this recommendation, it is important to refer to the appended glossary.

The second step is to identify the benefits and costs of replacing or supplementing existing means of release with various levels of electronic release. An agency should not offer an electronic information product unless the cost-benefit analysis demonstrates the electronic alternative analyzed is likely to be superior to existing means. The third step is to define the most desirable public and private sector roles, applying principles described in Recommendation D.

Deciding to "promote" electronic publishing does not necessarily mean a direct, retail, electronic publishing and distribution role for the government, if private sector electronic publishing activities and commitments are more cost effective (see Recommendation D). Electronic publishing contemplated by this recommendation also can occur through depository libraries. In some cases it may be appropriate to retain both paper and electronic versions of the same information, even though costs almost certainly will be higher than for either form alone.

Recommendation E identifies cost and benefit categories that should be considered in applying Recommendations B, C and D. Recommendations F through J deal with discrete questions of policy and technology: For example, the use of private telecommunications systems, the undesirability of exclusive private or public control of information, and the need to stay abreast of developing technologies.

These recommendations do not address such important issues as protection of trade secrets or privileged commercial information, invasion of personal privacy, or the need for Congress and agencies to consider allocating budgetary resources so that FOIA staffs will include persons skilled in using electronic databases. Nor do they address in detail the security of electronic databases. These subjects deserve separate investigation.

The recommendations also do not address issues pertaining to automation of internal agency functions including important questions of records retention, evidentiary use of electronic records, and program administration. Rather the recommendations assume that an agency has automated or will automate an identifiable portion of its activities and therefore is confronted with the questions of whether and how to establish interfaces between internal electronic information systems and the outside world.



Recommendation

A. Freedom of Information Act

1. In interpreting the Freedom of Information, Act, agencies should recognize that a "record" includes information maintained in electronic form.

2. Agencies using electronic databases rather than paper records should not deny access to the electronic data on the grounds that the electronic data are not "records," that retrieval of the electronic information is equivalent to creation of a "new" record, or that programming is required for retrieval. In responding to FOIA requests, agencies should provide electronic information in the form in which it is maintained or, if so requested, in such other form as can be generated directly and with reasonable effort from existing databases with existing software. Agencies, however, should not be obligated under the FOIA to create large new databases for private advantage, thus using agency resources for private purposes. Agencies should use a standard of reasonableness in determining the nature and extent of the programming that provides an appropriate search for and retrieval of records in responding to FOIA requests, and in determining the extent to which FOIA requesters may ask the agency to produce data organized in formats other than those used by the agency in the regular course of its operation.²

3. Differences in technologies and database structures used by individual agencies make it necessary, for the near term, to define FOIA obligations on a case-by-case basis. Further experience with electronic information systems is a prerequisite to the formulation of general rules applicable to such controversies under the Act as how requesters must identify the records sought, how much programming, if any, an agency must do, and how costs shall be borne. The concept of reasonableness applied to searches for paper information made in response to FOIA requests should provide a useful guideline for resolving controversies over the application of FOIA to electronically maintained data.

² Agencies should be able to recover the costs of complying with FOIA requests, including programming costs, in a manner consistent with the Freedom of Information Reform Act of 1986, 100 Stat. 3207, 3207-48 (1986), amending 5 U.S.C. 552(a)(4)(A), and related OMB guidance, 52 FR 10012, 10017 (1987).



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B. Acquisition of Information in Electronic Form

1. Agencies should acquire information in electronic form when they use, or will use, the information in that form and when most information submitters already maintain information electronically, or have ready access to intermediaries who will prepare and submit it in electronic form. When agencies sponsor electronic acquisition programs, they should make clear their intention that all information required will eventually be available to them in electronic form, either by strictly administering exceptions to mandatory programs, or by undertaking the conversion of paper submissions into electronic form themselves.

2. When most providers of information ("filers") are technologically sophisticated, it is appropriate for agencies to require electronic filing of information, after developing standard formats in consultation with the filer community, and after appropriate testing and transition periods.

3. In determining whether to require or permit electronic filing of information and in designing the particulars of an electronic acquisition program, agencies should carefully weigh the costs and benefits of electronic acquisition of information. The analysis should address the factors identified in Recommendation D together with other considerations made relevant by the agency's mandate.

4. Agencies initiating electronic acquisition programs should take steps to facilitate electronic filing by entities having limited technological capacity (without raising the costs for sophisticated entities), including the optional use of "smart forms." When a significant proportion of the filer community is technologically unsophisticated, electronic acquisition may be feasible only through intermediaries. In such cases, agencies should create economic incentives for electronic filing rather than mandating it. Part of the economic incentive to file electronically under voluntary electronic acquisition programs can be the imposition of a fee on technologically sophisticated filers who choose to file on paper, assuming the statutory authority to do so exists.

C. Release of Information in Electronic Form

1. Electronic information release policies should depend on such factors as (a) whether the desired level of release consists of electronic publishing, electronic disclosure, or electronic access in response to FOIA requests (see the glossary for definitions of these terms); (b) the



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agency's policies in releasing like information maintained in paper records; and (c) the costs and benefits of replacing or supplementing an existing paper medium with an electronic medium.

2. When a statute or agency policy mandates the publishing of information, the agency should itself electronically publish the information or facilitate its electronic publication by others, unless the cost-benefit analysis suggests the desirability of restricting publishing to the paper medium, possibly accompanied by a lower level of electronic release.³ If the agency publishes the information only on paper, it should consider electronic publication of the availability of the paper information products. Where an agency publishes information electronically, it should consider the feasibility of providing dial-up access.

3. When a statute mandates public reference room disclosure, or paper products presently are made available through a public reference room, agencies should provide electronic disclosure in public reference rooms of information already in electronic form. Such agencies should consider the costs and benefits of upgrading from electronic disclosure to electronic publishing. Agencies should also make information disclosed electronically available to any requester in an electronic form that would be easily usable by information resellers.

4. In those instances where an agency maintaining information in electronic form has no mandate to release information other than in response to FOIA requests, the agency should consider upgrading release of appropriate parts of this information to electronic disclosure through public reference rooms and wholesaling in electronic bulk form to private sector requesters.⁴

D. Allocation of Responsibilities Between Public and Private Sectors

1. Agencies that have decided under Recommendations B and C to acquire or release information in electronic form should define the appropriate roles of the public and private sectors in providing that information and related products (including telecommunications facilities, indexes and retrieval software as well as raw data). That choice should depend on the relative costs and benefits of privately versus publicly provided information products.

³ When a statute mandates electronic publishing, the agency would not have discretion to restrict publication to a paper medium or to a lower level of electronic release.

⁴ The prices for such electronic information would be determined under the general user fee statute, 31 U.S.C. 9701, or under the FOIA. See OMB's user fee guidelines, restated in App. IV to OMB Circular A-130, 50 FR 52748 (1985).



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2. When choosing between publishing and a lower level of electronic release of information, an agency should determine whether private sector providers are willing to supply electronic products having features (e.g., user-friendly menus) that will give the public greater benefits or lower costs than would electronic publishing by the agency. When an agency relies on the private sector for electronic publishing of agency information, the agency should seek to establish by contract the nature of the products to be provided.

3. When an agency determines its mission warrants new electronic means of acquisition or release of information and the private sector will not commit to provide them at appropriate prices, the agency should provide them, if clearly identified non-economic and economic benefits outweigh the capital and marginal costs. Agencies should recognize, however, that there may be circumstances where the costs to an agency would suggest the wisdom of creating incentives for the private provision of the desired electronic information product—for example, the free use of agency-developed software.

E. Determination of Costs and Benefits

1. Agencies should take into account the following costs in the decisionmaking processes suggested in Recommendations B, C and D:

(a) Capital costs to the agency of establishing the product, and the probable economic life and other uses over which the costs should be allocated;

(b) Capital costs to information consumers and information providers to utilize the product, and the probable economic life and other uses over which these costs should be allocated;

(c) The marginal costs to the agency of user access;

(d) Marginal costs to users for obtaining the information;

(e) Marginal costs to electronic information providers of updating the electronic information;

(f) Unrecovered costs associated with existing government or private sector capital that would be made obsolete by the new product;

(g) The costs of updates and upgrades in service levels or capacity necessary to permit intended benefits to be realized at levels of demand expected over the long term; and

(h) Costs of changing to standard formats or of handling different formats.



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2. Agencies should take into account the following benefits in decisionmaking processes suggested in Recommendations B, C and D:

(a) Savings associated with eliminating the cost of producing and maintaining existing paper products;

(b) Savings to agencies and consumers associated with upgrading the level of information release from ad hoc FOIA disclosure to electronic disclosure in a public reference room;

(c) Savings to agencies and consumers associated with upgrading paper public reference room disclosure to electronic publishing;

(d) Increase in the number of interested persons having access to information;

(e) Improvements in the utility of information for its intended purpose because of improved organization and retrieval capabilities; and

(f) Reductions in delays associated with transferring information from an agency to eventual consumers.

3. Cost-benefit analyses should take into account FOIA obligations, including obligations to protect trade secrets and other exempt information. In designing electronic databases, agencies should consider the types of FOIA requests likely to be received for data in the database, consulting with representative users when feasible. Insofar as it is consistent with agency mission performance, databases should be designed so as to facilitate responses to FOIA requests. A proper rule of thumb is that it should not be any more difficult to obtain information under the FOIA after automation than before.

4. In some cases, effective design may require some sacrifices in electronic FOIA retrieval capability. In these cases, agency designers of electronic databases and retrieval software should consider how FOIA requests can be satisfied consistent with the spirit of the Act. For example, an agency might choose to make raw data available to requesters in computer-readable form along with retrieval software, so requesters can effect their own retrievals. In other situations, new electronic information products may reduce costs of FOIA requests, to both requesters and agencies. This would occur, for example, if information were published or otherwise made accessible electronically in a public reference room, rather than provided only on paper in response to FOIA requests.



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F. Exclusive Control of Public Information

An agency generally should not grant a private party exclusive control of its electronic information or of the acquisition or release thereof. Nor should the agency itself as a general matter maintain such control in the absence of a compelling public purpose. Where an agency has, and wishes to exercise, authority to enter into an exclusive arrangement providing a private sector vendor with a preferential right to electronic information, the agency should first consider whether the analysis suggested in Recommendations B, C, D and E demonstrates that efficiencies can be achieved through such an arrangement. The agency should also guard against the possibility the arrangement may be inconsistent with its responsibilities under the FOIA or may impair the ability of the agency and the public to benefit from subsequent technological developments.

G. Technology Issues

1. Agencies should use proven technologies in their electronic acquisition and release systems. They should stay abreast of the state-of-the-art in all matters related to the electronic acquisition and release of information and should be particularly alert to the need for up-to-date and effective access control and other techniques required to maintain an appropriate level of security.

2. Agencies should seek to base electronic information formats on existing standards efforts such as American National Standards Institute standards on Electronic Business Data Interchange⁵ before developing their own distinctive format definitions.⁶

3. Whenever possible, agencies should use public data networks rather than developing their own communications links for public filers or consumers.

4. Agencies should consider conducting demonstration projects to experiment with evolving electronic information technology.

H. Electronic Participation in Administrative Proceedings

Agencies should experiment with electronic means of providing public participation in rulemaking, adjudication and other administrative proceedings, while retaining a means of

⁵ These standards are currently designated as "X.12".

⁶ Cf. Recommendation 78-4, Federal Agency Interaction with Private Standard-Setting Organizations in Health and Safety Regulation, 1 CFR 305.78-4.



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effective participation for persons who lack the means to access the electronic information system.

I. Government-wide Policy on Electronic Information

1. A government-wide policy on electronic information is desirable to afford guidance to agencies. Such a policy should articulate goals consistent with those expressed in the foregoing recommendations.

2. Congress should formulate the larger value judgments necessary for a government-wide policy on electronic information.⁷ These include the roles of public and private sectors; who ought to pay for increased information utility; and the level of funding to be provided by the government.

3. Because agencies often are in the best position to apply the considerations identified in this recommendation, Congress should normally defer to agency judgment in selecting methods to implement congressionally enacted policies when the agencies have offered rational justifications for their electronic information program decisions.

J. National Institute of Standards and Technology

The National Institute of Standards and Technology should continue to work with the U.S. Patent and Trademark Office to advance electronic data storage and transmission technology, as, for example, its work with high-capacity storage technology, and should inform agencies about commercially available products and services to facilitate electronic acquisition and communications.

Glossary

Bulk form: Large quantities of data in nearly raw form, with little formatting information or other added value, usually maintained and transferred on magnetic tape or cassettes or high capacity optical or magnetic disks.

Data product: A specific form of electronic information, sometimes including data structures, indices, retrieval software, and telecommunications links.

⁷ See, e.g., U.S. Congress, Office of Technology Assessment, *Informing the Nation: Federal Information Dissemination in an Electronic Age* (October 1988).



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Database: A body of information maintained in electronic form, from which parts can be retrieved electronically.

Dial-up: A form of electronic dissemination through which anyone with a computer, a modem, and access to an ordinary telephone line can retrieve information from an electronic database.

Electronic access: The lowest level of electronic release; the ability to obtain agency information; communicating information to consumers.

Electronic acquisition: Obtaining information from the public electronically; includes electronic filing; submitting information to an agency in electronic form.

Electronic disclosure: An intermediate level of electronic release; making information available electronically to the public at one or only a few places.

Electronic dissemination: The highest level of electronic release; using electronic means to make information widely available to the public at places where it is used; same as electronic publishing.

Electronic publishing: Same as electronic dissemination.

Electronic release: Communicating information to users in electronic form; a generic term that includes access, disclosure, and dissemination.

Hardware: Computers and associated peripherals.

Public data networks: Communications common carriers that aggregate small volume data communications and thereby reduce the cost of high-quality transmission of data.

Retailing: Providing information in a format different from that used by the government, or with accompanying analysis, aggregation or segregated subsets, enhanced search or retrieval capabilities, or otherwise tailored to be of value to specialized or individual end users; also may include distribution components of electronic release.

Retrieval: Extracting a part of a database and presenting it to the requester in a form understandable by humans.

Smart forms: Interactive computer data acquisition programs that guide the filer in answering questions.



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Software: Computer programs or data.

Wholesaling: Providing resellers or large end users information only in the form used by the government or only in bulk form.

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